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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/846,994

05/01/2001

Richard E. Hunter

0095-194

3915

22298

7590

06/11/2008

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EXAMINER

HWU, DAVIS D

ART UNIT

PAPER NUMBER

3752

MAIL DATE

DELIVERY MODE

06/11/2008

PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* RICHARD E. HUNTER, WILLIAM D. HOLTON,  
and LOREN W. SCOTT

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Appeal No. 2008-0547  
Application No. 09/846,994  
Technology Center 3700

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Decided: June 10, 2008

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Before TERRY J. OWENS, JENNIFER D. BAHR and STEVEN D.A.  
McCARTHY, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

The Appellants appeal from a rejection of claim 1. Claims 2, 4, 5, 7, 8, 10-15, 17, 19, 21-30 and 35-40 have been withdrawn from consideration by the Examiner, and claims 3, 6, 9, 16, 18, 20 and 31-34 have been canceled.

## THE INVENTION

The Appellants claim a sprinkler having a valve that prevents over-spinning of a turbine used to rotate a nozzle.<sup>1</sup> Claim 1 reads as follows:

1. A sprinkler, comprising:  
a riser for receiving a pressurized fluid;  
a nozzle;  
means for mounting the nozzle at an upper end of the riser for rotation about an axis;  
a turbine mounted for rotation inside the riser;  
drive means for connecting the turbine to the nozzle so that rotation of the turbine by the pressurized fluid will rotate the nozzle; and  
a valve that prevents by selectively re-directing the pressurized fluid around the turbine over-spinning of the turbine when the pressurized fluid is air or a mixture of water and air.

## THE REFERENCE

Clark

US 5,375,768

Dec. 27, 1994

## THE REJECTION

Claim 1 stands rejected under 35 U.S.C. § 102(b) over Clark.<sup>2</sup>

## OPINION

We affirm the Examiner's rejection.

Clark discloses a sprinkler (10) (col. 2, ll. 15-16) comprising a riser (inner tubular housing 16) (col. 2, ll. 19-20), a nozzle (22) (col. 2, l. 24) , a means (rotary distributor head 20) for mounting the nozzle at an upper end of the riser for

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<sup>1</sup> The Appellants disclose that over-spinning is rotation at a too-high speed caused by blowing pressurized air through a sprinkler system's supply lines to remove water from them when winterizing the sprinkler system, and pushing the air out of the supply lines in the spring when refilling them with pressurized water (Spec. 2:6-10, 16-18). The Appellants state that over-spinning can damage the turbine's bearings and/or shaft (Spec. 2:10-15, 18-20).

rotation about an axis (col. 2, ll. 24-27), a turbine (24) mounted for rotation inside the riser (col. 2, ll. 26-27), a drive means (gear train 26) for connecting the turbine to the nozzle so that rotation of the turbine by pressurized fluid (water) rotates the nozzle (col. 2, ll. 22-31, 40-43), and a valve (62) that selectively re-directs pressurized fluid (water) around the turbine (col. 3, ll. 36-54; fig. 2).

The Appellants argue that Clark's sprinkler is disclosed as operating only with water, not with air or a mixture of water and air (Br. 7).

As pointed out by the Appellants, water usually contains tiny air bubbles (Spec. 5:11-13). Thus, it appears that Clark's turbine is capable of being rotated by a mixture of water and air. Moreover, as pointed out by the Examiner (Ans. 4), Clark's valve 62 opens in response to pressure, and apparently would do so regardless of whether the pressure is provided by water, air, or a mixture of water and air.

The Appellants argue that a Declaration (filed May 2, 2006) by Michael L. Clark who, the Declaration states, is the inventor in the Clark patent, contradicts the Examiner's argument that Clark's valve "prevents by selectively re-directing the pressurized fluid around the turbine over-spinning of the turbine when the pressurized fluid is air or a mixture of water and air" (Reply Br. 2).

In the Declaration, Clark states that the valve in the Clark patent is held closed with a bias spring (68), and that with the valve in the closed position there is no flow path for either air or water, except for the inlet that feeds the turbine (Decl. ¶ 9). The valve will open, Clark states, as the pressure difference across the valve exceeds the spring force (Decl. ¶ 10). Clark states that the valve forces fluid to the

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<sup>2</sup> A rejection of claim 1 as being indefinite under 35 U.S.C. § 112, second paragraph, is withdrawn in the Examiner's Answer (Ans. 2).

turbine when the valve is closed and will continue to bias fluid to the turbine as the valve opens. *See id.*

Clark's figure 1 shows the valve in the closed position, and figure 2 shows the valve in the open position. In the Declaration, Clark does not explain, and it is not apparent, why, even if some fluid passes through the turbine as the valve opens, the opening of the valve to cause fluid to flow around the turbine cannot prevent over-spinning of the turbine, especially when the fluid is water containing the tiny air bubbles which, the Appellants state, usually are contained in water (Spec. 5:11-13). Clark, as the inventor in the Clark patent and, as argued by the Appellants (Reply Br. 2), an expert in the design of sprinklers, is in the best position to show experimentally or by technical reasoning that the valve in the Clark patent cannot prevent over-spinning of the turbine, and Clark has not done so.

In the Declaration, Clark states that the valve in the Clark patent includes a small throttling blade (70, figs. 2-4) that enters the inlet to the turbine as the valve opens (col. 3, ll. 48-54), and that the blade is designed to meter water only and, due to its size, would have little impact on the velocity of air (Decl. ¶ 11).

It is not apparent why, even if that statement is correct, the valve in the Clark patent cannot prevent over-spinning of the turbine, especially when the pressurized fluid is water containing the usual tiny air bubbles (Spec. 5:11-13).

For the above reasons we are not persuaded of reversible error in the Examiner's rejection.

#### DECISION

The rejection of claim 1 under 35 U.S.C. § 102(b) over Clark is affirmed.

AFFIRMED

Appeal 2008-0547  
Application 09/846,994

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